

REMARKS/AMENDMENTS

Reconsideration of this application is requested. Claims 38, 39, 41-50 and 52-77 will be pending in the application subsequent to entry of this amendment.

Amendments to the claims

Claim 38 has been amended as follows:

- (a) the silsesquioxane-containing copolymers have been limited to require the ratio of silsesquioxane-containing segments to polyol segments to be 1:X wherein X is 10 or more, based on e.g. dependent claim 47 and also the description at e.g. page 10 line 28 and page 35 line 14.
- (b) The linear siloxane-containing copolymers have been limited to require the presence of one or more polycarbonate segments, based on e.g. claim 64.

A minor editorial amendment has been made to Claim 47 to remove redundant subject matter.

Claim 54 has been amended to include a definition for the moiety R' based on page 28 lines 17-18.

Claim 65 has been amended to include the same limitations as claim 38.

Claims 53 and 77 have been amended such that the analogue of phosphoryl choline previously mentioned in these claims has now been defined as a moiety of formula (VII) as set out in previous claim 51.

Claim 51 has been cancelled as it became redundant following the amendments to claim 77.

The Applicants wish to highlight that amendment (a) above is a limitation based on dependent claim 47 (see also dependent claim 76) that has already been examined (although claim 47 is retained since it still provides a limitation where the siloxane is a linear siloxane) and that all of the other amendments have been discussed with the Examiner by telephone, save for a minor editorial amendment to claim 47.

Response to Office Action

The points raised in the Office Action are discussed below in turn.

Sections 1 – 5

No comment needed.

Section 6 – Election/Restrictions

The Examiner states that dependent claims 50-57 and 77 are withdrawn to a non-elected species. The objection seems to be based on the notion that independent claim 38 is not patentable. However, as explained below, amended claim 38 as filed herewith is believed to be patentable. Accordingly, dependent claims 50-57 and 77 must also be patentable for the same reasons, and so this objection no longer applies.

The Examiner also objects that substituent R' in claim 54 is undefined and that the term "analogue" in claims 53 and 77 is indefinite. As suggested by the Examiner on March 4, 2010, claim 54 has been amended to define R' based on page 28, lines 17-18, and claims 53 and 77 have been amended to define the "analogue" on the basis of previous claim 51.

Claim Rejections – 35 USC §102 and 103

Section 7

The Examiner objects that claim 38, among others, is anticipated by Hanada (EP 324 946), which describes linear siloxanes. As suggested by the Examiner on March 4, 2010, claim 38 has been amended to require that those copolymers which feature a linear siloxane moiety must also have one or more polycarbonate segments. The Examiner has already kindly indicated that this would overcome the objection based on Hanada and so the Applicants believe that this objection can now be withdrawn.

Section 8

The Examiner objects that the copolymers defined in claim 38 would have been obvious from the silsesquioxane-containing (POSS-containing) copolymers described in Sahatjian *et al* (US 2005/0010275). Amended claim 38 requires that when the siloxane moiety is a POSS

moiety, the copolymer must contain at least 10 times more polyol segments than POSS segments. New claim 38 can therefore be contrasted with the relevant copolymers described in Sahatjian *et al* as follows.

Claim 38 - at least 10 times more polyol groups than POSS groups
Sahatjian *et al* - 1 to 20 times more POSS groups than polyol groups [see 0131].

Thus, in order to get from the Sahatjian *et al* copolymers to those of new claim 38, a very drastic change would be needed - the POSS : polyol ratio would need to be changed by an order of magnitude. To do that, the relative amount of polyol units would need to be increased by no less than 1,000%. It is simply not credible to suggest that any person of skill in the art would even contemplate such a big change, because it would clearly lead to a completely different copolymer having very different properties. The person skilled in the art of polymer production is familiar with the importance of using the correct proportions of each monomer, and the effect on the properties of the resultant polymer of modifying the proportions of each monomer. In the present case, the skilled person would expect a significant change in polymer properties if the amount of POSS were reduced from a POSS : polyol ratio of 1:1 to no more than 1:10.

Accordingly, the skilled person would expect that the important properties of the Sahatjian *et al* copolymers would likely be compromised by reducing the amount of POSS so significantly.

Indeed, as noted in sections 4 and 5 of the attached declaration from Arnold Derbyshire, Sahatjian *et al* make it clear that having a glass transition temperature (Tg) that is above body temperature (and ideally in the region 40-50 °C) is crucial in order for the resulting stent to work. However, the experimental results discussed in section 8 of the declaration demonstrate that reducing the amount of POSS reduces the Tg. Thus, while the POSS-containing copolymers described in Sahatjian *et al* have a Tg of around +45 to +50 °C (see sections 6 and 7 of the declaration), the copolymers of claim 38 have a Tg of around -30 °C (which is also lower than the corresponding Tg when the POSS : polyol ratio is 1:1). Thus, the change from a ratio of 1:1 to one of 1:10 is not so insignificant that the resulting polymer would be expected to have the same properties: rather this change would be expected to cause a notable change in the properties of the polymer, as evidenced by the reduction in Tg.

This confirms beyond doubt that, as explained in section 12 of the attached declaration, no person of skill in the art would have even contemplated modifying the copolymers of Sahatjian *et al* in a manner that would lead to a copolymer as defined in claim 38. In particular, reducing the amount of POSS to that required by claim 38 would lead to a polymer which has very different properties at body temperature, affecting its use as a stent.

Moreover, there is no motivation whatsoever in Sahatjian to reduce the amount of POSS. Sahatjian teaches the use of POSS as a chain extender (see paragraphs [0085] and [0087] to [0089]). It is clear from this that a significant amount of POSS is envisaged. To reduce the amount of POSS to a maximum of one tenth of the amount of polyol would be to go against the teaching of Sahatjian that the POSS is a chain extender. Thus, there is no motivation or teaching in Sahatjian of the subject matter of claim 38 and this claim is accordingly patentable. All of the subsequent claims either depend on claim 38 or cover processes of producing the copolymers of claim 38 and so must also be patentable for the same reasons.

Sections 9-12

These objections all rely on the notion that independent claim 38 is not patentable. However, as noted above in section 8, amended claim 38 as filed herewith is patentable. Thus, these objections no longer apply.

Favorable reconsideration of this application is respectfully requested.

Respectfully submitted,

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